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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,674	12/27/2001	Katsuhito Kitahara	P6395a	2858
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EPSON RESEARCH AND DEVELOPMENT INC INTELLECTUAL PROPERTY DEPT 150 RIVER OAKS PARKWAY, SUITE 225 SAN JOSE, CA 95134			ROHWER, JACOB P	
			ART UNIT	PAPER NUMBER
			2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/033,674	KITAHARA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jacob P. Rohwer	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 Dec. 2001.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)<br><input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)<br><input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/17/02, 6/16/03</u> | <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____<br><input type="checkbox"/> Notice of Informal Patent Application (PTO-152)<br><input type="checkbox"/> Other: _____ |
|--|---|

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 1**, is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No 4,422,765 to Hoffman in view of US Patent No 5,493,386 to Thompson, further in view of Japanese Application Publication No 07-089053 to Yoshihiro et al, and further in view of US Patent No 5,874,988 to Gu.

It is noted that a machine translation of the JP Publication to Yoshihiro is the document cited within the rejection. A copy is enclosed.

**Regarding claim 1**, Hoffman discloses an apparatus for an image (**Col 4 Lin 56**) to be printed by a printer, the apparatus comprising:

an operating unit; (**Fig 1 Reference 13, Col 3 Lin 15-17**)

an ink-amount calculating unit for calculating data that substantially relates to an ink-amount required for printing the image generated by the image processing unit; (**Fig 2 Reference 24**)

a display unit for displaying the ink-amount data. (**Fig 2 Reference 26**)

Hoffman does not disclose expressly a capturing unit for obtaining an original image that is subject to image processing in response to an operation performed via the operating unit;

an image processing unit for processing the original image to generate an image for printing by the printer.

Furthermore, Hoffman does not specifically disclose that the image being processed and printed is a logo.

However, Thompson discloses a capturing unit for obtaining an original image **(Fig 1 Reference 120, Col 3 Lin 43-45)** that is subject to image processing in response to an operation performed via the operating unit; **(Fig 1 Reference 100 and 160, Col 3 Lin 45-47)**

an image processing unit for processing the original image to generate an image for printing by the printer; **(Fig 1, Col 3 Lin 52-57)**

displaying the image; **(Col 10 Lin 5-7)**

and specifically that the image being processed is a logo. **(Col 2 Lin. 23-26)**

The Hoffman and Thompson Patents are combinable because they are from the same field of endeavor relating to an apparatus that captures and processes an image.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the capturing unit subject to image processing, and the image processing control of the specified logo as specified in the Thompson Patent as the original image to be analyzed in the apparatus as specified in the Hoffman Patent.

The suggestion/motivation for doing so would have been to scan a logo in order to produce calculated ink consumption values from which variations in expected cost and bid prices from printing companies can occur depending upon ink quantities displayed.

Furthermore, Hoffman does not expressly disclose displaying the logo data and the ink-amount data simultaneously such that when a change is made to the displayed logo data, the ink-amount calculating unit recalculates an ink-amount for printing the changed logo data in substantially real-time.

However, Yoshihiro discloses an apparatus that simultaneously calculates the amount of ink to be used in parallel with the process of creating a printing version of bit map data. **(Para [0017] Lin 8-11)**

The Hoffman Patent and the Yoshihiro Publication are combinable because they are from the same field of endeavor relating to an apparatus that calculates ink consumption amount for printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use in parallel, the ink amount calculation and the creation of a printing version of bit map data as specified in the Yoshihiro Publication in order to display the ink amounts as specified in the Hoffman Patent.

The suggestion/motivation for doing so would have been to improve the working efficiency of plate-making and presswork by omitting the time and effort supplied by operators to calculate the ink amount data. **(Para [0039])**

Furthermore, the combination of Hoffman and Yoshihiro as specified above does not expressly disclose the displaying of the ink amount data and the image and the fact that when a change is made to the displayed image, a new calculation is carried out.

However, Gu discloses an apparatus in which the image and a histogram corresponding to color correction values are displayed simultaneously and when a

Art Unit: 2624

change is selected by the operator, the source image data is changed and the histogram is updated to reflect the changes. (Fig 9-11 A-C, Col 5 Lin 20-25))

The Gu Patent and the combination of Hoffman and Yoshihiro are combinable because they are from the same field of endeavor relating to image processing of graphics.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the simultaneous displaying of the captured image and the color histogram, and the updating and modification process as specified in the Gu Patent in order to display the ink amounts corresponding to the color reproduction of the image for printing as specified in the combination of Hoffman and Yoshihiro.

The suggestion/motivation for doing so would have been to achieve proper color balance in regard to the amount of color ink being used and estimating the amount and the cost of the individual colors within the printing system.

Therefore, it would have been obvious to combine the combination of Hoffman and Thompson with the combination of Yoshihiro and Gu in order to obtain the invention as specified in claim 1

**Claims 2-4, 14-17, 25-28, 36 and 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hoffman, Thompson, Yoshihiro, and Gu as applied to claim 1 above, and further in view of US Patent No 5,592,298 to Caruso.

Regarding claim 2, which depends from claim 1, the combination of Hoffman, Thompson, Yoshihiro, and Gu does not expressly disclose the apparatus as described

Art Unit: 2624

in claim 1, wherein the ink-amount calculating unit determines a number of color pixels in the logo data as attribute data.

However, Caruso discloses an apparatus, wherein the ink-amount calculating unit determines a number of color pixels in the logo data as attribute data. **(Col 3 Lin 63-67, Col 4 Lin 1-3, Fig 1 Reference 114)**

The combination of Hoffman, Thompson, Yoshihiro, and Gu as applied in claim 1 and the Caruso Patent are combinable because they are from the same field of endeavor that relates to image processing and printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the determined number of pixels in the Caruso Patent in order to calculate the ink-usage specified in the combination of Hoffman, Thompson, Yoshihiro, and Gu.

The suggestion/motivation for doing so would have been to enable the user to recognize ink consumption based on the pixel count of the logo being processed.

Therefore, it would have been obvious to combine the Caruso Patent with the combination of Hoffman, Thompson, Yoshihiro, and Gu to obtain the invention specified in claim 2.

Regarding claim 3, which depends from claim 1, the combination of Hoffman, Thompson, Yoshihiro, and Gu:

An apparatus as described in claim 1, wherein the logo data contains a plurality of colors **(Thompson Col 2, Lin 16-32)** to be analyzed and their ink quantities displayed on the display unit as attribute data. **(Hoffman Col 4, Lin 53-60)**

The combination of Hoffman, Thompson, Yoshihiro, and Gu does not expressly disclose an ink-amount calculating unit that determines a pixel counts for each color in the logo data as attribute data.

However, Caruso discloses an ink-amount calculating unit that determines a pixel Count for each color in the logo data as attribute data. **(Col 3 Lin 63-67, Col 4 Lin 1-3, Fig 1 Reference 114)**

The combination of Hoffman, Thompson, Yoshihiro, and Gu as applied in claim 1 and the Caruso Patent are combinable because they are from the same field of endeavor that relates to image processing and printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the determined the count of pixels in the image in the Caruso Patent in order to calculate the ink-usage of multiple colors for display as attribute data specified in the combination of Hoffman, Thompson, Yoshihiro, and Gu.

The suggestion/motivation for doing so would have been to enable the user to display ink quantities based on pixel count in accordance with the multiple colors used in the image.

Therefore, it would have been obvious to combine the Caruso Patent with the combination of Hoffman, Thompson, Yoshihiro, and Gu to obtain the invention specified in claim 3.

Regarding claim 4, which depends from claim 3, the combination of Hoffman, Thompson, Yoshihiro, and Gu in further view of Caruso teaches:



An apparatus as described in claim 3, wherein the plurality of logo data colors includes a first printing color and a second printing color, **(Thompson, Col 2 Lin 16-32)** the ink-amount calculating unit calculates as attribute data the pixel count **(please see rational provided in claim 2)** of the first color and the pixel count of the second color, and the display unit displays the first color pixel count and the second color pixel count as respective attribute data. **(Please see rational provided for claim 3)**

However, the combination of Hoffman, Thompson, Yoshihiro, and Gu in further view of Caruso does not expressly disclose a logo data color including a non-printing color.

However, it is officially noted that it was known to a person skilled in the art that in many cases the non-printing color is included in the logo or image being printed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include this non-printing color in the logo data specified in claim 1.

The motivation for doing so would have been due to the fact that the shape of the entire print data to be printed does not often conform to the precise shape of the actual image being printed by the actual printing colors, therefore requiring the use of the non-printing color as a background in the print data is necessary to highlight the precise shape of the image. Furthermore, often companies determine prior to printing which color they want as the background color to their logo, and as a result this is the color of the print medium they select, which makes it the non-printing color.

Art Unit: 2624

Regarding claim 14, steps (a)-(e) of the method claimed, please see the rational provided for claims 1 and 2 through the combination of Hoffman, Thompson, Yoshihiro, Gu, and Caruso.

In addition, the combination of Hoffman, Thompson, Yoshihiro, Gu, and Caruso does not expressly disclose in step (b) generating logo data, including non-printing pixels.

However this limitation can be rejected using the official notice explanation provided in claim 4 and the pixel counting of a plurality of colors provided by Caruso in claim 3. Please see the rational provided in claims 3 and 4.

Regarding claim 15, which depends from claim 14, please see the rational provided for claim 2. In addition, the apparatus of claim 2 performs the method of claim 15.

Regarding claim 16, which depends from claim 14, please see the rational provided for claim 3. In addition, the apparatus of claim 3 performs the method of claim 16.

Regarding claim 17, which depends from claim 16, please see the rational provided for claim 4. In addition, the apparatus of claim 4 performs the method of claim 17.

Regarding claim 25, it is known that an operating unit specified in claim 1 such as a CPU, requires a machine-readable medium embodying a program of instructions for directing a machine to execute a logo data generating method.

Please see rational provided for claim 14.

Regarding claim 26, which depends from claim 25, please see the rational provided for claim 2.

Regarding claim 27, which depends from claim 25, please see the rational provided for claim 3.

Regarding claim 28, which depends from claim 27, please see the rational provided for claim 4.

Regarding claim 36, which depends from claim 25, please see the rational provided for claim 25.

It is noted that the references do not explicitly disclose the type of mediums provided in the claim. However, each claimed medium is well known in the art.

It is obvious that a machine-readable medium such as a floppy disc is used to carry any set of program instructions due to the fact that it is very convenient to users because many CPU's comprise a floppy disc drive.

Regarding claim 37, which depends from claim 25, please see the rational provided for claim 25. The program instructions follow the steps provided in claim 25, the executable commands are provided by the operating unit and the user, and the data set is the logo or image being analyzed, displayed and printed.

**Claims 5, 18 and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hoffman and Thompson as applied to claim 1 above in view of Caruso, and further in view of US Patent No 6,529,202 to Wu.

Regarding claim 5, which depends from claim 1, rational provided in rejection of claim 3 is incorporated herein.

The combination does not expressly disclose the determination of a percentage of each color pixel count relative to the total pixel count, as attribute data.

However, Wu discloses the determination of a percentage of each color pixel count relative to the total pixel count. **(Col 3, Lin 16-23)**

The combination of Hoffman, Thompson, Yoshihiro, and Gu as applied in claim 1 in view of Caruso as specified in claim 3 and the Wu Patent are combinable because they are from the same field of endeavor that relates to the printing and viewing of multi-color images.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the determination of the percentage of each color pixel count relative to the total pixel count the Wu Patent as attribute data calculated by the ink-amount calculating unit specified in the combination of Hoffman, Thompson, Yoshihiro, and Gu in view of Caruso.

The suggestion/motivation for doing so would have been to enable the user to monitor the color ratios of the image being printed in order maximize the use of the ink cartridges used to print the image.

Therefore, it would have been obvious to combine the Wu Patent with the combination of Hoffman, Thompson, Yoshihiro, and Gu in view of Caruso to obtain the invention specified in claim 5.

Regarding claim 18, which depends from claim 14, please see the rational provided for claim 5. In addition, the apparatus of claim 5 performs the method of claim 18.

Regarding claim 29, which depends from claim 25, please see the rationale provided for claim 5.

Claims 6-8, 19-21 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hoffman, Thompson, Yoshihiro, Gu, and Caruso as specified in claims 1 and 3 above, and further in view of US Patent No 6,631,967 to Saruta.

Regarding claim 6, which depends from claim 1, the combination of Hoffman, Thompson, Yoshihiro, and Gu in further view of Caruso teaches:

An apparatus as described in claim 1, wherein the logo data contains a plurality of colors (**Thompson Col 2, Lin 16-32**) and the ink-amount calculating unit calculates a count of color pixels in the logo data as attribute data. (**Caruso, Col 3 Lin 63-67, Col 4 Lin 1-3, Fig 1 Reference 114**)

The combination of Hoffman, Thompson, Yoshihiro, and Gu in further view of Caruso does not expressly disclose calculating the product of the color pixel count multiplied by an ink amount used to print a pixel.

However, Saruta discloses calculating the product of the color pixel count multiplied by an ink amount used to print a pixel. (**Col 17 Lin 47-54, Note that an "on" ink dot is used instead of a pixel count**)

The combination of Hoffman, Thompson, Yoshihiro, Gu, and Caruso and the Saruta Patent are combinable because they are from the same field of endeavor that relates to calculating the total ink consumption used to print an image.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to calculate the product of the total number of ink dots multiplied by the amount of ink used for each dot by the printer in the Saruta Patent in order to calculate the total ink consumption of a plurality of colors in a logo to be printed as specified in the combination of Hoffman, Thompson, Yoshihiro, Gu, and Caruso.

The suggestion/motivation for doing so would have been to determine the total amount of ink consumed in order to print the image.

Therefore, it would have been obvious to combine the Saruta Patent with the combination of Hoffman, Thompson, Yoshihiro, Gu, and Caruso to obtain the invention specified in claim 6.

Regarding claim 7, which depends from claim 1, please see rationale provided for claims 6 and 3.

Regarding claim 8, which depends from claim 1, the combination of Hoffman, Thompson, Yoshihiro, and Gu in further view of Caruso does not expressly disclose the apparatus as described in claim 6, wherein the ink-amount calculating unit reads an amount of ink consumed for one dot stored for each printer model, and as a result calculates the ink consumption as the product of the read ink consumption amount multiplied by the color pixel count as attribute data.

However, Saruta discloses an ink consumption calculation wherein an amount of ink consumed for one dot is determined for the printer being used, and as a result calculates the ink consumption as the product of the determined ink consumption

Art Unit: 2624

amount multiplied by the color pixel count as attribute data. (Col 17 Lin 39-54, Once again, “on” ink dots are used instead of pixel counts)

The combination of Hoffman, Thompson, Yoshihiro, Gu, and Caruso and the Saruta Patent are combinable because they are from the same field of endeavor that relates to calculating the total ink consumption used to print an image.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to calculate the product of the total number of ink dots multiplied by the amount of ink used for each dot by the current printer model in the Saruta Patent in order to calculate the total ink consumption of a plurality of colors in a logo to be printed as specified in the combination of Hoffman, Thompson, Yoshihiro, Gu, and Caruso.

The suggestion/motivation for doing so would have been to determine the total amount of ink consumed in order to print the image based on the printer being used.

Therefore, it would have been obvious to combine the Saruta Patent with the combination of Hoffman, Thompson, Yoshihiro, Gu, and Caruso to obtain the invention specified in claim 8.

Regarding claim 19, which depends from claim 14, please see the rational provided for claim 6. In addition, the apparatus of claim 6 performs the method of claim 19.

Regarding claim 20, which depends from claim 19, please see the rational provided for claim 7. In addition, the apparatus of claim 7 performs the method of claim 20.

Regarding claim 21, which depends from claim 19, please see the rationale provided for claim 8. In addition, the apparatus of claim 8 performs the method of claim 21.

Regarding claim 30, which depends from claim 25, please see the rationale provided for claim 6.

Regarding claim 31, which depends from claim 30, please see the rationale provided for claim 7.

Regarding claim 32, which depends from claim 30, please see the rationale provided for claim 8.

**Claims 9-11, 22-24, and 33-35** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hoffman, Thompson, Yoshihiro, Gu, Caruso, and Saruta as applied to claim 8, and further in view of US Patent No 5,802,420 to Garr et al.

Regarding claim 9, which depends from claim 8, the combination of Hoffman, Thompson, Yoshihiro, Gu, Caruso, and Saruta does not expressly disclose:

A way of determining a standard ink-usage of each type of sheet for ink-usage other than for printing the logo data, and calculates ink-usage per printed sheet from the standard ink-usage and the ink-usage for logo data printing as attribute data.

However, Garr discloses: a way of determining a standard ink-usage of each type of sheet for ink-usage other than for printing the logo data, and calculates ink-usage per printed sheet from the standard ink-usage and the ink-usage for logo data printing as attribute data. **(Col 3 Lin 46-50)**



The combination Hoffman, Thompson, Yoshihiro, Gu, Caruso, and Saruta and the Garr Patent are combinable because they are from the same field of endeavor that relates to determining the amount of ink consumed to print a particular image.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the determination of standard ink-usage of each type of sheet in the Garr Patent in order to calculate the total consumption of ink specified in the combination of Hoffman, Thompson, Yoshihiro, Gu, Caruso, and Saruta.

The suggestion/motivation for doing so would have been to allow the apparatus to function correctly when handling different types of printing sheets.

Therefore, it would have been obvious to combine the Garr Patent with the combination of Hoffman, Thompson, Yoshihiro, Gu, Caruso, and Saruta to obtain the invention specified in claim 9.

Regarding claim 10, which depends from claim 9, the combination further teaches [in Garr]:

An apparatus as described in claim 9, wherein the ink-amount calculating unit calculates a number of sheets that can be printed per ink cartridge from a previously stored ink cartridge capacity and calculated ink-usage per printed sheet as attribute data. (Col 3 Lin 1-4)

Regarding claim 11, which depends from claim 9, the combination further teaches [in Garr]:

An apparatus as described in claim 9, wherein the ink-amount calculating unit calculates average ink cartridge life from the calculated ink-usage per printed sheet and

Art Unit: 2624

a previously stored average number of printed sheets issued in a specific time. (Col 10 Lin 40-45)

Regarding claim 22, which depends from claim 19, please see the rational provided for claim 9. In addition, the apparatus of claim 9 performs the method of claim 22.

Regarding claim 23, which depends from claim 22, please see the rational provided for claim 10. In addition, the apparatus of claim 10 performs the method of claim 23.

Regarding claim 24, which depends from claim 22, please see the rational provided for claim 11. In addition, the apparatus of claim 11 performs the method of claim 24.

Regarding claim 33, which depends from claim 30, please see the rational provided for claim 9.

Regarding claim 34, which depends from claim 33, please see the rational provided for claim 10.

Regarding claim 35, which depends from claim 33, please see the rational provided for claim 11.

**Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hoffman, Thompson, Yoshihiro, and Gu as applied to claim 1 above, and further in view of US Patent No 5,905,894 to De Bonet.

Regarding claim 12, which depends from claim 1, the combination of Hoffman, Thompson, Yoshihiro, and Gu does not disclose:

An apparatus as described in claim 1, wherein the calculated results from the ink-amount calculating unit can be externally output as print data in conjunction with the logo data.

However, De Bonet discloses an output interface that provides requisite circuitry to electrically connect and interface display and printer to the computer system (**Fig 1 Reference #130, # 150 and #160, Col 5 Lin 44-46**) This reference shows that data to be displayed, such as the calculated results from the ink amount calculating unit, can be externally output as print data when connected to a printer.

The combination of Hoffman, Thompson, Yoshihiro, and Gu and the De Bonet Patent are combinable because they are from the same field of endeavor relating to displaying output information.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to connect a printer to the display as specified in the De Bonet Patent in order to output the calculated results from the ink amount calculating unit as specified in the combination of Hoffman, Thompson, Yoshihiro, and Gu as print data.

The suggestion/motivation for doing so would be to allow for a printed visual display of the ink-amount calculated results in that might need to be shown and distributed to others, say in a company meeting for example.

Therefore it would have been obvious to combine the De Bonet Patent with the combination of Hoffman, Thompson, Yoshihiro, and Gu to obtain the invention in claim 12.

**Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hoffman, Thompson, Yoshihiro, and Gu as applied to claim 1 above, and further in view of US Patent No 5,782,567 to Endo.

**Regarding claim 13**, which depends from claim 1, the combination of Hoffman, Thompson, Yoshihiro, and Gu does not disclose:

An apparatus as described in claim 1, wherein the printer is a POS printer or ATM printer, and the logo data is image data stored in the printer for printing on a print sheet such as a sales receipt, transaction receipt, or other form.

However, Endo discloses a sale apparatus, wherein the printer is POS printer or ATM printer **(Col 1 Lin 14-17)**, and the logo data is image data stored **(Col 2 Lin 57-58)** in the printer for printing on a print sheet such as a sales receipt, transaction receipt, or other form. **(Col 2, Lin 16-19)**

The combination of Hoffman, Thompson, Yoshihiro, and Gu and the Endo Patent are combinable because they are from the same field of endeavor relating to printing logo data.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use a POS printer as specified in the Endo Patent as the printer specified in the combination of Hoffman, Thompson, Yoshihiro, and Gu.

The suggestion/motivation for doing so would have been the fact that many logos, such as a company logo, are often printed when a sale is made in order to advertise or for convenience to the customer for classifying the printed material.

Therefore it would have been obvious to combine the Endo Patent with the combination of Hoffman, Thompson, Yoshihiro, and Gu to obtain the invention in claim 13.

**Claims 38, 39 and 40** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hoffman, Thompson, Yoshihiro, and Gu as applied to claim 1 above, further in view of Garr, further in view of Endo as applied to claim 13, and further in view of US Patent No 6,377,359 to Higashio.

Regarding claim 38, please see the rational provided for claims 1 and 12 above. Furthermore the combination of Hoffman, Thompson, Yoshihiro, and Gu and Garr discloses:

A host system having a data transmission unit for sending logo data to an ink-jet printer (**Garr Col 2 Lin 56**) for printing.

It is noted that the combination of Hoffman, Thompson, Yoshihiro, and Gu, Garr and Endo does not explicitly disclose a first computing unit for calculating the size for the logo data and displaying the logo size calculated by the first computing unit.

However, Higashio explicitly discloses the calculation of the size of the image data printed by the printer. (**Fig 11 discloses calculating an enlargement/reduction ratio in order to produce output image, Col 7 Lin 47-54**)

Additionally, the limitation that at least one of the logo size or the ink-usage is displayed simultaneously with the image data is discussed in the rejection of claim 1.

The combination of Hoffman, Thompson, Yoshihiro, and Gu, Garr and Endo and the Higashio Patent are combinable because they are from the same field of endeavor relating to aspects of an apparatus that captures, processes, and prints an image.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the calculation of the logo data size printed for the printer in the Higashio Patent as attribute data to be displayed on the display unit specified in the combination of Hoffman, Thompson, Yoshihiro, and Gu, Garr and Endo.

The suggestion/motivation for doing so would have been to monitor ink usage and actual size of printed image or logo desired.

Therefore, it would have been obvious to combine the Higashio Patent with the combination of Hoffman, Thompson, Yoshihiro, and Gu, Garr and Endo in order to obtain the invention as specified in claim 38.

Regarding claim 39, please see the rational provided for claims 1 and 38. The apparatus of claim 38 would perform the method of claim 39.

Regarding claim 40, which depends from claim 39, please see rejections of claims 14 and 39.

### ***Response to Arguments***

Applicant argues that Hoffman's ink consumption prediction is for off-set printing, the current application involves dot-based printing. However, it is noted that within the scope of the independent claims 1, 14 and 25, an ink-jet printer is not distinguished. Furthermore, the limitations of the dependent claims, regarding to determining color pixel count, multiplication and percentage determination, are all met by the cited

Art Unit: 2624

limitations within the scope of the submitted claims. Additionally, applicant argues Thompson makes no ink consumption determination in the operation of the system. This is respectfully noted. However, Thompson discloses a system that recognizes a predetermined characteristic of logo data such as size, which ultimately relates to an amount of ink to be used in reproducing the logo data. As a result, the Thompson Patent is easily combinable with the Hoffman Patent that predicts the amount of ink consumption. Furthermore, applicant argues that Caruso lacks any teaching of employing ink usage estimation in connection with logo data generation in the manner contemplated by the present invention, as explained below regarding simultaneous displaying of logo data and ink amount usage data. In response to applicant's amended claims, the combination of the Yoshihiro Publication and the Gu Patent have been cited to show simultaneous display of ink amount usage and image data, and provide for repeat processing and real-time updating. Furthermore, as incorporated into the rejection, the Caruso patent, in combination with Hoffman, Thompson, Yoshihiro, and Gu has pertinent information relating to the present application. As a result of the new search and findings, the Takeo reference is no longer incorporated into the rejection, making the applicant's arguments in accordance with the Takeo Patent and the Hoffman, Thompson, and Caruso Patents mute. Additionally the arguments of claims 38 and 39 are also mute in view of Yoshihiro and Gu.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob P. Rohwer whose telephone number is 571-272-5509. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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